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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,227	07/15/2003	David L. Zenker	KCC-4975 (K-C 19,019)	8513
321 7590 08/07/2007 SENNIGER POWERS ONE METROPOLITAN SQUARE 16TH FLOOR ST LOUIS, MO 63102				
EXAMINER MATZEK, MATTHEW D				
ART UNIT		PAPER NUMBER		
1771				
NOTIFICATION DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

### Office Action Summary

**Application No.**

10/620,227

**Applicant(s)**

ZENKER ET AL.

**Examiner**

Matthew D. Matzek

**Art Unit**

1771

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-6, 8, 10-13, 15, 16, 18-20, 22, 23 and 27-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 3-6, 8, 10-13, 15, 16, 22, 23, 27-34 and 36-38 is/are rejected.
- 7) ☒ Claim(s) 18-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-848)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. The amendment dated 5/21/2007 has been fully considered and entered into the Record. Claims 31-34, 36 and 37 have been amended. The claims have been amended to more clearly describe the absorbent core's structure and the location of the scrim member. The previous art rejections made over Ouellette et al. have been withdrawn as the applied art fails to teach an absorbent core comprising a scrim located between upper and lower regions. Claims 3-6, 8, 10-13, 15, 16, 18-20, 22, 23 and 27-38 are currently active.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 3-6, 8, 10-13, 15, 16, 27-33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuen et al. (EP 0 467 409 A1) in view of Ouellette et al. (US 6,093,663) and May et al. (US 2002/0009940).

a. Kuen et al. disclose a reinforced absorbent pad comprising a reinforcing web located adjacent to an upper and lower absorbent layers (col. 4, lines 17-37). The presence of the reinforcing web does not significantly deleteriously affect the absorption capabilities of the absorbent pad (col. 2, lines 28-40). As described in the applied reference the process used to make the three layer absorbent structure is very similar to that of Applicant. In particular a layer of fibers are deposited, followed by the application of the reinforcing web followed by depositing the second layer of fibers (col. 10, lines 9-54). The fibers that make up the absorbent material pass through the reinforcing web in the final product (col. 7, lines 1-10). Examiner takes the position that

since the absorbent structure formation process of Kuen et al. (cols 7-9) is very similar to that of Applicant [0068-70 in the specification]; including the use of the vacuum box, which Applicant alleges may cause the entanglement of the fibers with the scrim, and the fact that Kuen et al. disclose that the absorbent fibers of the lower layer pass through the reinforcing web, the new structural limitations are met by Kuen et al. The applied reference is silent as to the stiffness of the web fibers or to the tension in a given zone of the article.

b. Ouellette et al. teach an elastic laminate comprising at least a first fabric layer (absorbent core) and an open cell mesh having first and second strands. The first fibers are deformed such that they are substantially flat in shape and the second fibers are elliptical in shape (Abstract). The Examiner equates the open cell mesh to the woven scrim of Applicant's invention. The applied invention is directed to an elastic absorbent article (col. 1, lines 15-20). The laminate is preferably elastic in at least a portion of the structural direction D, the direction of the second fibers **28**, mislabeled **29** in Figures 1 and 2, and inelastic in the direction of the first fibers (col. 2, lines 5-13 and col. 3, lines 45-50). The Examiner interprets the applied invention to have first fibers that are the MD fibers of Applicant and second fibers that are CD fibers of Applicant as length/machine direction is directed to the larger dimension and the width/cross direction is directed to the smaller dimension. Applicant is directed to Figures 1 and 2. The inelasticity in the MD and the elasticity in the CD yields an article with a lower stiffness of the absorbent core in the cross direction. Ouellette et al. teach having CD strands with a spacing frequency different from the first strand spacing in the MD (col. 12, lines 1-28), but do

not teach having CD zones along the MD with varied strand density or an absorbent core comprising a scrim located between upper and lower regions.

- c. With regards to the new limitations set forth in claim 31 and 38 the MD and CD strands define a plurality of openings in the scrim layer (col. 4, lines 25-35). The new limitation of having the scrim member being attached to the absorbent core through entanglement of fibers with each other where entangled fibers pass through said scrim member openings is provided by the reference's description of the bonding of the two layers (cols.7-9). The applied reference teaches that the strands of the scrim integrally bonded to the first fabric layer, but along with bonding to the first fabric layer the scrim also penetrates at least 10% of the thickness of the first fabric layer and most preferably, about 100 percent of the of the first fabric thickness (col. 5, lines 35-40). This means that the scrim has penetrated the first fabric layer and fibers of the first fabric layer would necessarily penetrate the openings of the scrim and entangle with the strands of the scrim layer at the points where the scrim is not bonded to the first fabric layer. While entanglement is not the primary mode of attachment between the two layers there is entanglement between the scrim and the first fabric layer, meeting the instant limitation. Claim 38 is met as the reference teaches that both the MD and CD fibers may penetrate the first layer (col. 5, lines 14-17 and col. 8, lines 39-42).
- d. Since Kuen et al. and Ouellette et al. are from the same field of endeavor (i.e. absorbent articles), the purpose disclosed by Ouellette et al. would have been recognized in the pertinent art of Kuen et al.

e. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Kuen et al. with the strands of Ouellette et al. motivated by the desire to varied properties throughout the article to benefit comfort.

f. May et al. teach a targeted elastic laminate material having different zones of tension providing the article with improved fit characteristics for disposable personal care products (Abstract). Referring to Figure 10, a pant-like absorbent garment 2 with high-tension (high stiffness) zones 7 and 9 with low-tension (low stiffness) zones 1 and 3 [0096] is shown. In Figure 10 the machine direction is the vertical direction and the cross direction is the horizontal direction. Therefore, the high stiffness zones 7 and 9 run in CD across the MD of the article separated by the low stiffness zones of 1 and 3.

g. Since Kuen et al. and May et al. are from the same field of endeavor (i.e. personal absorbent articles), the purpose disclosed by May et al. would have been recognized in the pertinent art of Kuen et al.

h. It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the absorbent article of Kuen et al. with the differing stiffness zones of May et al. to create an article with improved fit characteristics to disposable personal care products (Abstract; May et al.). As taught by Ouellette et al. this may be done by varying strand density, strand cross-sectional area, and the modulus of the strands (col. 12, lines 13-18). The article of the combined teachings of Kuen et al., Ouellette et al. and May et al. possesses strand spacing that is different in the CD than the MD and has CD strand spacing that is varied in different zones of the MD.

i. Claims 3-6 are rejected as MD fibers have a strand frequency of between 2 and 10 per centimeter and the CD fibers have a strand frequency of between 2 and 5 (col. 12, lines 1-28; Ouellette et al.). This yields a CD to MD strand frequency ratio ranging from 1.0 CD to 1.0 MD to 0.2 CD to 1.0 MD. Claim 8 is rejected as the CD has a different strand spacing frequency than the MD.

j. Claim 15 is rejected as the CD fibers are substantially elliptical with major and minor axes being arranged substantially normal to a plane of the MD strands (Abstract; Ouellette et al.). The MD fibers are left with a flattened elliptical shape in the final product (Figures 1 and 2; Ouellette et al.). Claim 16 is rejected as the article of Ouellette et al. may have a CD strand density of 5 per centimeter with a cross-sectional area of  $0.003\text{cm}^2$  and a MD strand density of 2 strands per centimeter with a cross-sectional area of  $0.03\text{cm}^2$  (col. 12, lines 1-15). Therefore if the strands have the same facial shape this allows for CD strands with a lesser minor axis (diameter for circular strands) than the MD strands ( $0.0006\text{ cm}^2$  or a diameter of 0.028 cm per CD strand and  $0.0015\text{ cm}^2$  or diameter of 0.044 cm per MD strand). This provides for a CD/MD diameter ratio of 0.63. The CD/MD diameter ratio is a result effective variable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the article of Ouellette et al. with a strand diameter ratio of less than about 0.5, since it has been held discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

k. Claims 27-30 are rejected as the structural limitations set forth in claim 31 have been met and as such can serve as an absorbent article in the instantly claimed garments.

4. Claims 22 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuen et al. (EP 0 467 409 A1) in view of Ouellette et al. (US 6,093,663) and May et al. (US 2002/0009940) as applied to claim 33 above, and further in view of Ducker et al. (US 5,622,581). The invention of Kuen et al. is silent as to the weakening of the CD strands along their lengths to enhance buckling.

a. Ducker et al. disclose a disposable garment with de-elasticized elastic members via macerators, chemicals, selective laser beams, heat and freezing (Abstract). In the applied invention the elastic strands can be deactivated at points on the web (1) where it is desired to reduce or to eliminate the elastic tension in the finished product (col. 3, lines 28-34 and Figure 1). The means applied to the elastic members are meant to cut or weaken the elastic (col. 4, lines 4-13). Weakened elastic members remain continuous following treatment.

b. Since Kuen et al. and Ducker et al. are from the same field of endeavor (i.e. absorbent articles), the purpose disclosed by Ducker et al. would have been recognized in the pertinent art of Kuen et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have de-elasticized at least some of the CD strands of the invention of Kuen et al. The skilled artisan would have been motivated by the desire to create an article with varying elasticity within the absorptive article in order to prevent undesired discomfort or looseness in the absorptive areas, while remaining elastic in other areas.



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5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuen et al. (EP 0 467 409 A1) in view of Ouellette et al. (US 6,093,663), May et al. (US 2002/0009940) and Ducker et al. (US 5,622,581) as applied to claim 22 above, and further in view of Schafer et al. (US PG Pub 2004/0092898). Kuen et al. and Ducker et al. are silent as to the use of calcium carbonate as the chemical means by which the CD strands are de-elasticized.

a. Schafer et al. disclose a breathable absorbent thong shaped sanitary napkin or panty liner (Abstract). The applied publication teaches the incorporation of particles of calcium carbonate into a polymeric backsheet for said absorbent napkin and due to the incompatibility of the calcium carbonate and polymer cracks are formed through the layer of polymer to form micropores, which allow water vapor to permeate through the film (para 67).

b. Since Kuen et al. and Schafer et al. are from the same field of endeavor (i.e. absorbent articles), the purpose disclosed by Schafer et al. would have been recognized in the pertinent art of Kuen et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have incorporated calcium carbonate into the strands of Ducker et al. that make up the reinforcing scrim. The skilled artisan would have been motivated by the desire to deactivate the elastic strands at points on the web via chemical means.

6. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuen et al. (EP 0 467 409 A1) in view of Ouellette et al. (US 6,093,663) and May et al. (US 2002/0009940) as applied above to claim 33 and further in view of Dean (US 4,107,371). Kuen

et al. is silent as to the weaving of the MD and CD strands in a manner that allows for the CD to woven under and over the MD strands.

- a. Dean teaches the use of an open weave that is relatively stiff in one direction and relatively flexible in other direction (Abstract). Adjacent parallel strands arranged with one strand over and the next strand under in alternating interlocking relationship at the point of crossing each of respective monofilaments in the filling direction. The strands are then stabilized by fusion of the thermoplastic polymer at the point of the strands' intersection (Abstract). While Dean teaches flexibility in the warp direction (MD) and stiffness in the filling direction (CD) the emphasis of Dean's disclosure is provide relative flexibility in one direction and relative stiffness in the other. Therefore, an article may be constructed with flexibility in the filling direction (CD) and stiffness in the warp direction (MD).
- b. Since it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24.
- c. The combined articles of Kuen et al. and Dean would result in an article that has possesses a scrim member with MD and CD strands crossing over one another with a stiffness in the CD that is less than the MD. The CD strands are corrugated and forms peaks and valleys along the CD with the MD stands being arranged to engage the CD stands across the peaks and valleys thereof. This fiber orientation provided by Dean allows for flexibility in the CD and stiffness in the MD.

***Allowable Subject Matter***

7. Claim 35 is deemed allowable at this point in prosecution. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach the unique combination within an absorbent article that has a scrim member comprising MD and CD strands with the CD strands having lower stiffness than the MD strands, some of the CD strands being continuous and having weakened points along their lengths to enhance buckling at points between the MD stands that are offset from the adjacent CD strands.

8. Claims 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of Record fails to disclose or suggest an absorbent article with a network of MD strands and CD strands with CD strands that cause the article to have less stiffness in the CD than the MD and wherein at least some of the CD strands are continuous and have weakened points along their lengths to enhance buckling by means of said strands being notched, abraded or compressed.

***Response to Arguments***

9. Applicant's arguments with respect to claims 3-6, 8, 10-13, 15, 16, 18-20, 22, 23 and 27-38 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is 571.272.2423. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571.272.1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew D Matzek/  
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